

- (1) Number of pages _____
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(3) Initials of the Referencer _____

MADRAS RECORD OFFICE

Government of Madras

Public Works DEPARTMENT

G.O. No.	94	(9)	Press
B.P. No.			Mis.
Dated	15-1-		1876

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
15th January 1876.*

No. 185. Read the following endorsement of the Chief Engineer for Irrigation, dated Fort St. George, 6th January 1876, No. 13:—

From Major J. BEATTY, R.E., Acting Superintending Engineer, Godavery District, to Lieutenant-Colonel J. MULLINS, R.E., Chief Engineer for Irrigation, dated Camp at Dowlaishweram, 9th December 1875, No. 2,752.

I HAVE the honor to submit herewith the revised estimate for the embankment road from Vejeshweram to Polaveram, prepared by the officer in charge of No. 4 Range.

- 1 Book of Longitudinal and Cross Sections.
- 1 Plan of Polaveram Sluice.
- 1 Plan of Details of Shutters.
- 1 Estimate of Polaveram Sluice.
- 1 General Estimate.
- 1 Comparative Statement.
- 1 Specification.
- 1 Range Officer's letter.

* Memorandum, No. 1,064, of 17th December 1874.

on the occasion of the great fresh of July 1875.

3. The piece of embankment for which raising is proposed in this estimate is, in my opinion, the most† important in the district, because the great works in the Western Delta are all more or less threatened with injury or destruction by any inundation through it.

4. It is now proposed to raise the embankment to $6\frac{1}{4}$ feet above the fresh of July 1875, i.e., to 4 feet above the highest registered freshes, which were those of 1853 and 1861, and to make the top of the bank as nearly as possible parallel with the surface level of the flood of July. At Vejeshweram anicut the fresh rose to 51.66, and at Covoor 6 miles higher up to 60.49; the surface fall has therefore been fixed at 1.47 between those two places. Above Covoor the fall was somewhat less than 15 inches per mile, which Mr. Martin has taken as the surface slope in the $18\frac{1}{2}$ miles from Covoor to Polaveram.

5. My inquiries as to the probable height of a maximum flood in the Godavery lead me to the conclusion that such a flood would not rise many inches above the extraordinary floods of 1853 and 1861, consequently such raising as is now proposed will place the top of the embankments 3 to 4 feet above the highest floods.

6. In consequence of the necessity for this raising, I have considered it expedient to stop progress with the embankment road until the raising has been carried out. That road was sanctioned on an estimate of Rupees 80,000 in G.O., No. 1,251, of 14th May 1872; it was commenced on 11th February 1872, and the expenditure up to date has been Rupees 52,655-13-3. That estimate provides for no raising, but only for widening the old bank, and earthworks to the extent provided in that estimate have been completed.

7. In the Budgets of the present year allotments of Rupees 6,210 and Rupees 10,000‡ were provided from Local and Imperial Funds. The expenditure was first made this year against the Local Fund allotment, and the outlay up to the stoppage of work was Rupees 3,076-13-2. I have informed the Vice-President, Ellore Circle,

† Vide Acting Superintending Engineer's letter, No. 3,403, of 2nd February 1872, printed with G.O., No. 1,251, of 14th May 1872.

‡ Vide pages 42 and 43 of Irrigation Budget.

*Proceedings of the Madras Government, Public Works Department,
15th January 1876.*

that the balance of Local Fund allotment is available for transfer to other work, as the road-work cannot be proceeded with further this year.

8. I now request that Government will be pleased to transfer Rupees 6,000 from the Imperial allotment of Rupees 10,000 to the revised estimate, and to authorize me by telegram to proceed with the raising. I propose also that the balance of Rupees 4,000 be transferred to the raising of the embankment in No. 5 range, for which an estimate is also ready and will be sent within a few days.

9. The revised estimate now submitted provides, as above stated, for the cost of the road, including the raising of this piece of embankment to 4 feet above the floods of 1853 and 1861 at a cost of Rupees 1,48,730; and I have roughly estimated that the cost of raising 2 feet more, *i.e.*, to 6 feet above the maximum recorded floods, would be Rupees 61,950.* I mention this, because in one of your memoranda on the

* In addition to the estimate now submitted. raising of flood embankments you have suggested 6 feet as a proper margin, but, after full consideration, I think 4 feet will be sufficient.

10. My reason for thinking so is that the experience of the high flood of July is conclusive that, if the top width of bank be made 3 or 4 yards, it will never breach unless overtopped. The breaches that occurred this year were all due to the flood flowing over the top of the bank, except in a few cases where the bank had been of very weak section.

11. The present estimate amounts to Rupees 1,48,730, and deducting Rupees 80,000, the amount of the former estimate, the balance now requiring sanction will be Rupees 68,730.

12. Of this sum Rupees 43,500† should, I think, be met from Local Funds. On this it may be remarked that if the road had been made anywhere away from the embankment, it could not have been constructed under Rupees 3,000 a mile, or Rupees 73,500 for 24½ miles. I would propose therefore to charge Local Funds with Rupees 43,500 which, added to Rupees 30,000, the sum already agreed to under that head, will make a total of Rupees 73,500 for the road.

13. The balance, Rupees 25,230, would in that case be charged to Imperial Funds.

SUBMITTED for the consideration of Government in connection with G.O. of the 14th May 1872, in which the arrangements under the estimate now in force were approved.

2. The necessity for revising the level of the top of the embankment has, it is considered, been demonstrated, and, under the circumstances mentioned by Major Beatty, a margin of 4 feet instead of 6 feet above the highest recorded flood may be assumed to be sufficient.

3. The principle on which the District Engineer proposes to distribute the charge between Imperial and Local Funds appears to be as good an approximation as can be made without upsetting the basis on which a division of cost was formerly made. Then three-fifths of the total cost instead of certain items of that cost were charged to Imperial Funds, and as very nearly half the total was for gravelling with which Imperial interests were not concerned, the result was that Local Funds were relieved

*Proceedings of the Madras Government, Public Works Department,
15th January 1876.*

af charges to the extent of some Rupees 26,000 properly appertaining to them. Now on the other hand it may be said that placing the road on the higher level may not be at all requisite in the interests of the road, so the best way of making a division of cost may be that suggested by Major Beatty.

4. As far as can be judged from the longitudinal sections transmitted, the level of the embankment, as formerly designed, was irregular. The absence of accurate information in the first instance is apparent, and the primary disposal of estimates for works of this class should be made in the Public Works Department. They are as regards their most important object Imperial works.

5. The wings of the Polaveram sluice will be much too short, and heavy revetments will be needed to supplement them. The design was not at all well suited to the circumstances, and the roadway has to be raised more than 6 feet.

(Signed) JOHN MULLINS, Lt.-Col., R.E.,
Fort St. George, Chief Engineer for Irrigation.
6th January 1876.

No. 186. ORDER THEREON, 15th January 1876, No. 94.

IRRIGATION, No. 15-A.

THE subject of the division of cost of the combined river embankment and road from Vejeshweram to Polaveram will be referred for consideration in the Financial Department, the District Engineer not having apparently obtained the opinion of the Local Fund Board on his proposals.

2. The utilization of the Rupees 10,000 provided in the Budget, in the manner proposed in paragraph 8 of the District Engineer's letter, is approved.

3. All estimates dealing with Agricultural Works require to be reviewed in the office of the Chief Engineer for Irrigation, and should be submitted for sanction or approval, as the case may be, in the Public Works Department, whether it be proposed or not to carry them out partially or wholly from Local Funds.

(True Extract.)

(Signed) G. W. WALKER, Major-General, R.E.,
Secretary to Government.

To the Financial Department.

- " District Engineer, Godavery.
- " Chief Engineer for Irrigation.
- " Controller of Public Works Accounts.

Exd. E. C. Shunker.
Spare Copies

Enclosures 9.

N^o 13
Submitted for the consideration of
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the 14th May 1872 in which the arrange-
ments under the estimate now in force
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total was for gravelling with which
Imperial

FORMER CASES.

Current No. of 187
 " " " " " "

P. H. 1876 Sept
 M. WORKS FORM No. 3.

Current No. 193

From
 The Chief Eng^r for
 Irrigation.

No. 3

Dated 3rd Jan^y: 1876.
 Recd 11th

Subject:—

Note on letter submitted
 by En. Eng^r in charge of Kistna
 Dist. forwarding map and
 revised statement of ferry
 boats in Kistna District.

LATER CASES.

Current No. of 187
 " " " " " "

ENCLOSURES— 10

From to
 " " " "

G.O. No 95 17-1-76
 Orders and Proceedings in file.

Depart- ment.	No.	Date.	ENDORSEMENTS.		
			Depart- ment.	No.	Dated.
Revenue	507	22 nd 1875	Recd	683	28 th 1875
Pro ^d .	1739	5 th 1875			
"	1943	5 th 1875			
"	2264	15 th 1875			
"	2780	20 th 1875			
"	2872	29 th 1875			
"	163	15 th 1875			
"	928	20 th 1875			

187

No 95 Mad Sept

No of the Madras Govt.

Under date the 17 Jan^y 76
 Read the following

From the Chief Eng^r for
 Irrigation { H.E. No 3 of 3 Jan^y 76 }

These papers will
 be communicated to the
 Revenue Department in
 continuation of G.O.
 No 2264 of the 15th August
 1874, with a view to informa-
 tion being obtained as to
 the manner in which collections
 under Act I of 1870 are
 appropriated and as to
 the balance available.

Rev: Daptⁿ with 10 Enclosures
 in original

B.E. Krishnaiah
 Ch Engr for Irrigⁿ

W. 7/1

21

Drpd - 22-1-76

17

12-1-76

Imperial interests were not concerned, the result was that Local Funds were relieved of charges to the extent of some 26000 Rupees properly appertaining to them. Now on the other hand it may be said that placing the road on the higher level may not be at all requisite in the interests of the road, so the best way of making a division of cost may be that suggested by Major Beatty.

4. As far as can be judged from the longitudinal sections transmitted, the level of the girderment, as formerly designed, was irregular. The absence of accurate information in the first instance is apparent, and the primary disposal of retinates for works of this class should be made in the Public Works Department. They are as regards their most important object Imperial works.

5. The wings of the Polarium
sluice will be much too short, and

heavy revetments will be needed to supplement them. The design was not at all well suited to the circumstances and the roadway has to be raised more than 6 feet.

Lieut George W. Williams
6th January 1876 Chief Engineer for Irrigation
Lieut R.E.

To
The Secretary to Government.
Public Works Dept.

193
Govt. of Madras.

PUBLIC WORKS.

Revenue Dept

17/11/18

17/11/18

17/11/18

17/11/18

G. O.

1875, No. 95

17 Nov 1875

Forry, Coatsworth Dist.

Note by the Ch. Eng. for Survey
in letter from the Ex. Eng. in
charge of Kistna Dist. for
working map and revised
statement of — commd to
the Rev. Dept. in continuation
of G.O. 226 of 15th Aug^r 1875.

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Handwritten text in the middle left corner.

From
No. 13.

The Chief Engineer for
Investigation
To The Secretary to Govt.
P.W.D.

Dated 6th } January 1876
Received
Enclosures - 9

Submits for consideration
letter from the Deputy Secy of
Go. Clavery with plans & estimate
for the road from Vijai-
warum to Polavaram.

Vertical handwritten text along the right margin, possibly a file number or reference.

FORMER CASES.

Current No. of 187 .

" " " " " "

P. D. 1876 Sept
M. WORKS FORM No. 3.

Current No. 168.

From
The Chief Engr. for
Irrigation

No. 13
Dated 6th 3rd Jan'y 1876
Recd 11th 3rd Jan'y 1876

Subject:— Submits for consideration
letter from the Dy. Engr.
Godavery, with plan & Est.
for the road from Vijeshwaram
to Polavaram.

LATER CASES.

Current No. of 187 .

" " " " " "

ENCLOSURES. 9

From to
" "
" "

G.O. No 94. 18. 1. 76
Orders and Proceedings in file.

Depart- ment.	No.	Date.	ENDORSEMENTS.		
			Depart- ment.	No.	Dated.
P. W.	292	14 May			
	296	1872			
Fin.	138	8 Feb			
		1872			

185

Oct 11-1-76

No 96

Proceedings of the Madras Government
15 Jan'y 76.
Read the following.

From
The Chief Engr. for Irrigation (No. 13 of 3rd Jan'y 1876)

The subject of the
division of cost of the
combined river embank-
ment and road from
Vijeshwaram to Polavaram
will be referred for consi-
deration in the Financial
Department, the District
Engineer not having ap-
parently obtained the
opinion of the Local Land
Board on his proposals.

2. The utilization of the
Rs 10,000 provided in the
Budget

Budget in the manner
proposed in para 8 of the
District Engineer's letter
is approved.

3. All estimates ~~for~~
dealing with Agricultural
works require to be reviewed
in the office of the Chief
Engineer for irrigation, and
should be submitted for
sanction or approval as
the case may be, in the
Public Works Department,
whether it be proposed
or not to carry them out
partially or wholly from
Local Funds.

W. S. H.
C. M. W.

Finb Dept
D. F. Goddard
Chrgs for Engrs + 5
Cmb P. H. H. H.

+ with 9 Enclaves
Dsp - 25-1-76 h. J. H.

17/1/78

Govt. of 1876 Madras.

PUBLIC WORKS.

To: Local: Dept.

17/1/78

Date

Local

Re: L.

Encl.

G. O. 15/1/78 1876, No. 94

No. 15 781

Combined River Embankment
and Road from Vijayawaram
to Polavaram, Godavari -

The subject of the division
of the — referred for
consideration in the Local Dept.
The utilization of the Rs 1,00,000
provided in the Budget in the
scheme proposed by the Works
Department.

1876-77-1-70 1876